

## INVENTING A DOCTRINE PROCESS

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**T**HE TRUTH OF THE matter is that the US Air Force does not have any sort of systematized process for developing its doctrine. Continuous pronouncements from the highest command levels over the past 50 years have trumpeted the importance of sound doctrine.<sup>1</sup> Yet, no system or organized intellectual process exists to capture and evaluate ideas and concepts and then formulate them into useful doctrine.

Of course, we do have an established bureaucratic process that produces official doctrine publications.<sup>2</sup> The Air Force has even gone to the trouble of establishing a Doctrine Center at Langley AFB, Virginia, to act as the focal point for all of its doctrinal efforts. Bureaucratic processes, however, are not intellectual processes—even though we all too often substitute the former for the latter. Bureaucratic processes cause things to happen (or prevent them from happening) in some orderly manner. Determining whether the results (if they are allowed to occur) are good, bad, right, or wrong is measured by conformance to the process itself rather than by intrinsic qualities and values.

An intellectual process may indeed be imbedded within the bureaucratic process. One hopes that such would be the case. Further, one hopes that the bureau-

cratic process itself would systematically evaluate the subject or purpose of the process for its intrinsic value. Unfortunately, this is often not the case and is particularly not the case in the development of Air Force doctrine. Within the established bureaucratic process for producing doctrine, we have no organized system or process for gathering, consolidating, and analyzing historical and theoretical data. We have no ground rules for developing concepts and evaluating competing concepts. In short, no systematic intellectual process exists for the development of Air Force doctrine.

One can find the unfortunate results of this intellectual void in the manuals of Air Force basic doctrine from the early 1950s to the present. Three examples illustrate the point.

First, Air Force basic doctrine totally ignored protracted revolutionary warfare (insurgency) until 1964 and then referred to it almost as an afterthought. This omission was startling, given the fact that revolutionary insurgencies dominated much of the world scene from the late 1940s through the 1960s.<sup>3</sup> The Malayan emergency, the French struggle in Indochina, the Hukbalahap rebellion in the Philippines, and the French struggle in Algeria are the most obvious examples. By

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1964, of course, the United States was already heavily involved in Vietnam.

Second, a less-than-subtle hint has it that Air Force basic doctrine is not the product of serious research and analysis. More often, it seems to reflect the opinion of the "senior officer present." It is probably much more than coincidence that during the 1950s and much of the 1960s, general officers whose careers were inseparably intertwined with strategic bombardment dominated Air Force leadership and that Air Force doctrine emphasized strategic bombardment. Also probably more than coincidence is the fact that after the US adventure in Vietnam, the "fighter Mafia" began to take the reins of senior Air Force leadership and that the strategic bombardment mission began to fade from prominence in basic doctrine.

Third, until the appearance of the 1992 version of Air Force basic doctrine, no one attempted to justify what doctrine said. Correct or incorrect, without any evidence, doctrine was nothing more than a collection of assertions. The fact that doctrine writers apparently required no evidence to bolster their assertions may explain how they managed to treat such fundamental subjects as the "principles of war" so cavalierly. That is, over the years, writers changed these principles almost at will and interpreted them differently—at times in very dubious ways.

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*Experience forms the foundation of doctrine.*

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These three examples do not provide any degree of confidence that Air Force basic doctrine is the product of thorough, systematic inquiry and reasoned synthesis. They do illustrate the consequences of not having a systematic intellectual process for the development of Air Force doctrine.<sup>4</sup>

This article outlines the basic elements of a national, systematic, intellectual approach to the development of Air Force doctrine and proposes three fundamental steps that, if taken, can implement the approach. Basic doctrine provides the perspective for this investigation. However, similar approaches should prove useful and beneficial in the development of other levels and kinds of doctrine.

### Elements of a Systematic, Intellectual Approach

A reasonable and proven outline for a systematic approach to the development of doctrine resides in the classic, structured steps of a research project: devise a research question; devise a research plan; gather the required data; analyze the data; in light of the data,

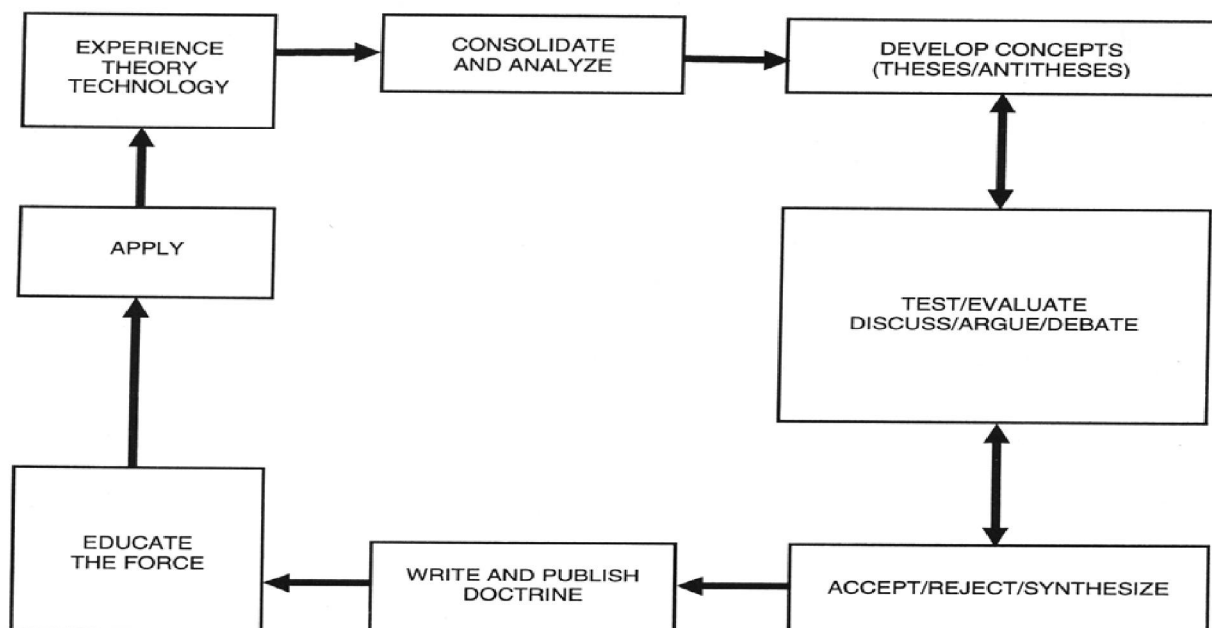


Figure 1. The Doctrine Process

formulate and evaluate potential answers to the research question; in light of the data, identify the best answer; and, finally, write and publish the research report. We use this basic process (with some minor variations) for everything from a staff study to a doctoral dissertation. The process also seems appropriate for the development of doctrine that responds to the fundamental research question, What is the best way to use airpower? If we begin with this question and translate the generalities of a classic research structure into more concrete operational terms, the process might well look something like figure 1.

### ***Devise a Research Plan***

Experience forms the foundation of doctrine, which is another way of saying that history—ours and others’—forms the primary source material for writers of doctrine.<sup>5</sup> Thus, the research plan—represented by the box in the upper-left corner of figure 1—must find a way to explore the relevant history for each subject treated by the doctrine. This effort must go far beyond simple library research, extending into the often overlooked experience of exercises, maneuvers, and perhaps even computer war games and simulations. Finally, the historical research not only should look at “what happened” but also should weigh previous interpretations of “why” and “how,” as well as the significance of “what happened.”

Although doctrine’s roots are primarily embedded in history, some subjects have no basis in empirical evidence. In these areas, the doctrine writer must rely on theory. Most subjects dealing with the use of nuclear weapons or deterrence, for example, fall into this category. Nuclear war has never occurred (notwithstanding Hiroshima and Nagasaki), and nuclear deterrence remains only a theoretical construct.

Finally, the doctrine writer’s research plan must take into account advances in technology that may temper or perhaps even obviate the “lessons” of the past. The fact that the technology in question may be unproved in combat operations puts the doctrine researcher in a difficult situation. The latest gee-whiz gadget may offer great promise for overcoming previous problems or for providing revolutionary capabilities, may be highly touted by its manufacturer, may have great political sensitivity in terms of the budget, but may be absolutely unproved in the crucible of war. We have yet to devise practicable field-testing procedures that can accurately replicate the reality of combat. Although very “realistic” regimes for training and testing now exist, they are not “real.” Obviously, this sort of situation presents serious dilemmas for the doctrine researcher.

### ***Gather and Analyze the Data***

Gathering the historical, theoretical, and technological data concerning each discrete subject within the doctrine is not only a massive task, but also one that—if performed incorrectly—can defeat the purpose of the entire process. The most common problem is predisposition—gathering only the evidence that supports preconceived concepts about the subject at hand. One suspects that preconceived concepts may often originate at higher levels of command. As a result, the researcher stacks the evidence and then “cooks the books.” If the evidence is stacked in support of preconceived notions, the effort to evaluate and analyze the evidence becomes skewed at best—worthless at worst.

Once the evidence is gathered and consolidated in a usable format, the analysis must evaluate its pertinence. Certain pieces of evidence may no longer be relevant because of technological developments. For example, data on bombing accuracy from the strategic bombing campaigns of World War II and related information concerning tactical formations, damage expectations, requirements for subsequent strikes, and doctrinal notions derived from such experience may not be nearly as important to airpower operations in an era of precision guided munitions.

### ***Formulate and Evaluate Potential Answers to the Research Question***

Analysis of the gathered data should generate new concepts or reinforce existing concepts. For example, analysis of data concerning the success of stealth technology may change our concepts for organizing and “packaging” strike forces. Rather than employ large force packages of strike and support aircraft, we may now favor individual sorties by stealthy strike aircraft. Other people may disagree, perhaps arguing that the data is inconclusive or that stealthy penetration may be impracticable during daylight hours or that stealth capabilities may not be effective against certain opponents with advanced air defense systems. In short, competing concepts may emerge from analysis of the data.

Whether the concepts developed are new and/or competing and/or reinforcing, they need to be tested and evaluated. Actions can range from actual field testing (although such testing would probably be more common for tactical doctrine than for basic doctrine) to debate in forums such as professional journals, symposia, and the like. The objective is to examine concepts in depth, compare, contrast, identify strengths and weaknesses, and modify.

### ***Identify the Best Answer to the Research Question***

The testing and evaluation process should lead naturally to acceptance or rejection of concepts or the modification and synthesis of concepts that address the basic research question. If the process is robust, the evidence and interpretation to support accepted concepts or syntheses should be solid and defensible.

In figure 1, double-headed arrows connect the three boxes representing the development, evaluation, and acceptance or rejection of concepts. These arrows imply that the process is iterative and, although divided into discrete sections in figure 1, that all three sections are part and parcel of the same function.

### ***Write and Publish the Doctrine***

Although the physical acts of writing and publishing doctrine come late in the process, planning for this crucial step must come before the process of doctrine development even begins. Doctrine has many useful purposes and many potential audiences. Determining the primary purpose and the primary audience will affect not only how the doctrine is written, but to some extent what subjects are covered, how they are approached, and what data is sought. These decisions will, in turn, determine how concepts are developed and analyzed.

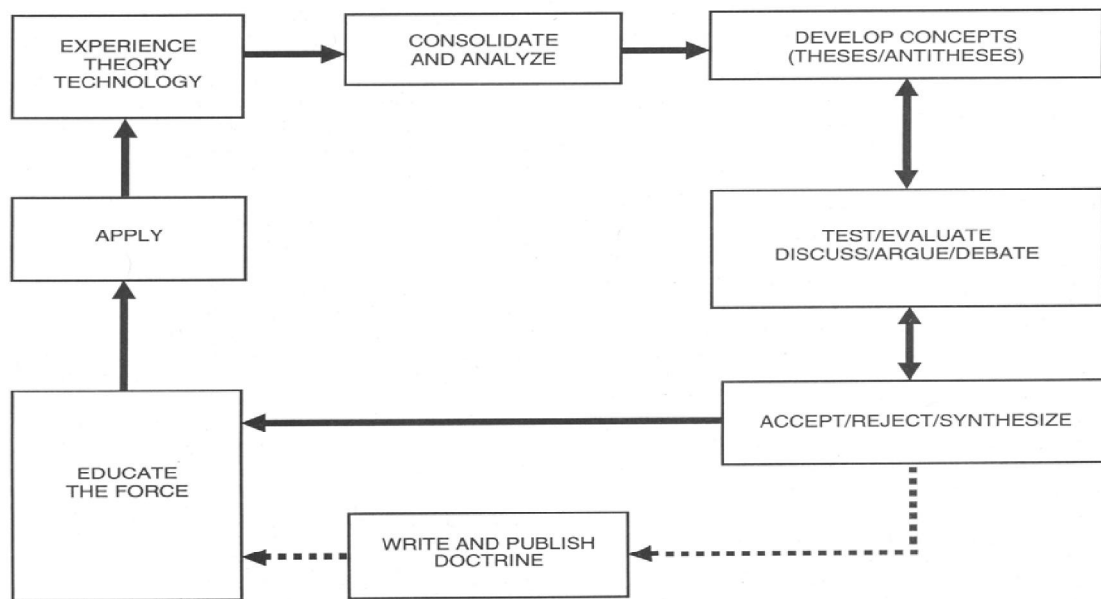
In the past, writers of Air Force basic doctrine have produced their manuals (perhaps unintentionally) for use within the Pentagon to fight both the budget and

roles-and-missions battles. These manuals contained exhaustive lists of primary and collateral roles and missions, each with its own hair-splitting definition. Useful in the Pentagon, such information has little practical utility beyond the Washington Beltway and virtually no utility to deployed forces. The manual of 1992 broke with this tradition by seeking to educate airmen of all ranks about the fundamentals of airpower employment. Both of these approaches are legitimate, but deciding which to take (or perhaps selecting another approach) will have a major impact on how one writes, publishes, and distributes the manual.

### ***Educate the Force***

At this point, the normal research report/thesis/dissertation process ends. After a staff officer or scholar has published the report/thesis/dissertation, his or her job is complete. However, one cannot say the same for the publication of basic doctrine. If no one reads the doctrine manual, no one will understand or apply the doctrine, and the entire venture will have been for naught. Unfortunately, this scenario has generally held true in the past. The powers that be have left published doctrine to languish. Traditionally, even the Air Force system of professional military education gave doctrine only a passing glance.<sup>6</sup>

The 1992 edition of Air Force basic doctrine changed the landscape of doctrinal education considerably. The manual contains a strong, clear mandate from the chief of staff that all airmen should understand their doctrine; thus, doctrine education became



**Figure 2. The Doctrine Process Modified**

much more important. Indeed, educational efforts have increased significantly, but much remains to be done. More about that later.

### ***Apply the Doctrine***

The obvious final step is to apply the doctrine. As noted earlier, the Air Staff has used basic doctrine extensively to fight the good fight over budgets, roles and missions, weapons systems, and so forth. Elsewhere, the application of doctrine has been spotty at best. Such results are to be expected if one writes basic doctrine for use within the Pentagon, without any concerted educational program to teach it to the bulk of the force.

The application step yields a result, which adds to the body of data (experience), from which we develop doctrine—thus bringing the process of doctrine development full cycle. It continues as we add daily to the body of experience and generate new ideas. The *publication* of doctrine is episodic, but its development should be continuous. With this in mind, a slightly modified version of the doctrine process paints a more accurate picture.

Figure 2 displays a process of continuous development, but here the writing and publication of doctrine are episodic. At the same time, the illustration indicates that we accept, teach, and apply new concepts even though we have not published new doctrine. This is what we might call informal doctrine on the best way to use airpower—beliefs that evolve constantly but have not been written, published, and officially sanctioned.<sup>7</sup>

### **Implications of the Doctrine Development Process**

Although the continuous cycle of doctrine development is the most obvious implication of the process, other implications are at least equally important. First, doctrine development is a large task. Locating, accessing, consolidating, and analyzing all of the pertinent data is a very large undertaking—as is the process of developing concepts and testing them. Finally, educating the force is a massive undertaking; at the least, it entails the entire system of military education.

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#### ***The chief weakness of the current system of doctrine development is that there is no real system.***

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The second implication is one of continuous change in the basis for doctrine (i.e., experience, technology, and—to some extent—theory). The foreshortened tech-

nological horizon brings new breakthroughs nearly every day. In terms of theory, new ideas bombard us daily. Some will prove useful; some we will cast into the intellectual dustbin. Continual changes in the experience base are particularly important. Because airmen have but a scant century of experience, every new experience can have a profound impact because it adds so much (at least in relative terms) to the base.

One other implication, already mentioned indirectly, is that a successful process of doctrine development must have a robust means of both generating and evaluating airpower concepts from the constantly changing experience-theory-technology base. This requirement implies the active involvement of many more personnel than the limited number at the Air Force Doctrine Center or those people at major commands who handle (generally as an additional duty) bureaucratic doctrinal chores.

### **Weaknesses in the Current System**

As mentioned earlier, the chief weakness of the current system of doctrine development is that there is no real system. We have a bureaucratic structure and a bureaucratic process (responsibilities assigned, coordination paths delineated, etc.) but no systematized, intellectual process. We have bits and pieces of a process but nothing resembling a coherent whole. Several significant barriers to a systematic approach are obvious.

The first barrier is that the entire process—not just writing and publication—is episodic. Little evidence exists that any serious, organized, orchestrated work in gathering and evaluating evidence occurs until someone, somewhere, decides on some basis that we need a new doctrine manual. There seems to be almost no consistency in making those decisions. Note, for example, that during the 1950s, the Air Force produced basic doctrine in 1953, 1954, 1955, and 1959. Five years then elapsed before publication of the next manual in 1964, and then seven more years passed until the 1971 edition appeared, in spite of all that was happening and all that we were learning in Vietnam.<sup>8</sup> In the 1970s, a new doctrine manual appeared about every four years (1971, 1975, 1979), and then five years elapsed until the 1984 version. Eight years and enormous changes<sup>9</sup> intervened between the 1984 and the current 1992 versions.<sup>10</sup> Neither rhyme nor reason nor rhythm seems to inform our publication of doctrine.

Nor do we have an organized, systematic effort to generate, evaluate, and cast judgment on new concepts based on the ever-changing database of experience, theory, and technology. The only activity resembling

such an effort is the coordination process for drafts of new doctrinal manuals.<sup>11</sup>

Finally, until recently, we had no organized, integrated, educational effort to imbue the Air Force with its doctrine. In the last few years, Air University's College of Aerospace Doctrine, Research, and Education (CADRE) has taken on the task of developing a comprehensive program of doctrine education. The effort has made considerable progress and developed some innovative tools, but it clearly has a long way to go to produce a comprehensive, integrated program across the entire Air Force.

### **Inventing and Implementing the Process**

Considering all of the foregoing, if the Air Force is to have effective and useful doctrine, it must invent and implement an intellectual process for its development. One of the most important steps in developing an intellectual process is a bureaucratic step already taken. The decision to designate an organization responsible for doctrine development apart from the hubbub, politics, deadlines, and other distractions of the Pentagon was crucially important. Virtually every step in the process of doctrine development requires quiet, concentrated study and attention over prolonged periods—commodities often in short supply in the Pentagon. Hopefully, the Air Force Doctrine Center will be the catalyst to improve doctrine. But creating the organization and staffing it with outstanding people is only the first step in the larger task. If we are to accomplish that task, three steps seem prudent.

#### ***Decide upon the Real Purpose of Air Force Doctrine***

On the one hand, as noted earlier, the Air Force for many years wrote its basic doctrine with an eye toward interservice battles within the Pentagon. On the other hand, analysts developed and wrote the 1992 version as an educational tool. These two approaches are not necessarily mutually exclusive, but they can be. Writing only for Pentagon wars yields little of practical use in the field. Writing to educate the Air Force not only can accomplish that task, but also can benefit people who are fighting the good fight within the Pentagon.

#### ***Establish an Appropriate Division of Labor***

It is difficult to conceive of one organization with sufficient staff and expertise to operate the entire system of doctrine development and do it right. The task is huge. For example, relevant information concerning

military experience, theory, and technology exists in military and civilian sources, in all of the services, in all of the major commands, in joint and combined organizations, in domestic and overseas sources, in modern computer databases and the musty stacks of historical archives, and in academic and popular publications. Identifying the potential sources of information is no small task, and gaining access to their information may, at times, be difficult. We confront a mountain of information, with more flowing in all the time. The task of gathering, consolidating, and organizing the information in a form useful for analysis and the generation of concepts is monumental. Developing and evaluating concepts requires a broad base of expertise and interests. Educating the force at the appropriate level of understanding and analysis is another huge task.<sup>12</sup>

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The appropriate approach seems to call for the Air Force Doctrine Center to manage the process as a whole and perform only those tasks for which it is suitably staffed. Clearly, the center must be in charge of accepting or rejecting new concepts and should actually write and publish the doctrine. Beyond that, the center's personnel can subdivide tasks into research projects—perhaps by the basic roles of airpower (aerospace control, force application, force enhancement, etc.), by the classic missions of airpower (counterair, strategic attack, interdiction, etc.), or even by more specialized topics (ballistic missile defense, command and control, etc.).

The Doctrine Center could allocate individual topics to subject-matter experts, who would actually do the research, consolidate and analyze the information, and generate concepts.<sup>13</sup> One might find such people at the major commands—but those folks rarely have the time or resources for the task described in this article. RAND's Project Air Force might be able to provide some assistance. Professional faculty members at Air University offer a considerable talent pool and some of the best expertise available, in addition to the considerable resources of the Air University Library and the archives of the Air Force Historical Research Agency. Individual subjects could also become research projects for students at Air University's Air War College and Air Command and Staff College. CADRE, the organization responsible for the 1992 version of basic doctrine, would also seem a prime candidate to provide research, consolidation, analysis, and concept

generation. However, the focus of that organization has shifted considerably over the past few years, and it is now much more involved in education (including doctrine education) than it is in research.

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Adequate testing of concepts requires appropriate forums for argumentation and rebuttal.<sup>14</sup> The Doctrine Center can organize this effort by publishing the results of research and analysis in professional journals or as stand-alone products distributed widely for comment. Further, the Doctrine Center could sponsor a series of recurring conferences/symposia at which researchers could vet their analyses.

The division of labor will produce a manageable task for the Doctrine Center. Specifically, the center will have more extensive results of research and concept generation than it could have generated internally. Center personnel will also have the critiques, caveats, and modifications of new concepts resulting from publication and/or presentation, from which they can make decisions about what concepts to include as they actually write the doctrine manual.

The final point concerning a division of labor has to do with educating the force. Much good work has already been accomplished since the delegation of the task to CADRE, but much remains to be done to produce a comprehensive program of doctrine education. The Air Force should allocate more emphasis and more resources. If we do not propagate our doctrine to the force, the doctrine becomes meaningless—gathering dust on the bookshelf.

### ***Make the Process Continuous***

The world does not hold its breath between publications of doctrine. New experiences accrue constantly. New technologies emerge and mature constantly. New theory and new interpretations of existing theory are the constant fodder of the military-academic community. Thus, the intellectual process of developing doctrine should be continuous. Only the publication of doctrine is episodic.

If we recognize the continuous nature of doctrine development, the implications become very clear. Allocation of research topics to subject-matter experts should not be forced to fit within a publishing schedule. Rather, the schedule should be forced to fit the acceptance of new concepts as doctrine. Research and the development of concepts should be continuous and

open-ended. Spirited discussion of concepts in professional journals should never abate, and conferences/symposia should be sponsored on a regular, recurring basis. In short, the process of doctrine development should not be episodic. Instead, it should be a continuous, self-renewing flow.

As the process of doctrine development constantly flows, with no real beginning or end, the question then becomes when to publish and when to get a “snapshot in time” that temporarily answers the fundamental research question, What is the best way to use airpower? One way to finesse the problem would be to publish doctrine in a loose-leaf format that would facilitate interim page changes. Another approach would schedule publication only when a certain percentage of the entire doctrine manual clearly requires significant change. The worst solution would put doctrine publication on a time-based schedule with no regard for the significance of changes required.

### **Conclusion**

Success in war depends more on mental than physical capabilities. Even the most sophisticated military establishment can be outsmarted by people with greater mental acuity. Roughly paraphrasing and turning the tables on Voltaire, history is replete with examples of God smiling on the side with the smarter divisions.

Our doctrine represents (or should represent) the apex of our thinking about the best ways to use airpower. It is our theory of victory.<sup>15</sup> As such, it deserves our best intellectual efforts and our utmost attention. In the past, our doctrine has received neither. The first step in correcting this unacceptable situation is to treat the development of doctrine as a profoundly important and continuous intellectual process rather than simply a bureaucratic requirement.

### **Notes**

1. One of the most famous quotations concerning the importance of doctrine came in 1968 from Gen Curtis E. LeMay, former Air Force chief of staff: “At the very heart of warfare lies doctrine. . . . It is the building material for strategy. It is fundamental to sound judgment.” Quoted in Air Force Manual (AFM) 1-1, *Basic Aerospace Doctrine of the United States Air Force*, 1984, [i]. In the 1990s, Gen Merrill A. McPeak, Air Force chief of staff, continued to mark the importance of doctrine in his foreword to the 1992 version of basic doctrine: “This manual is one of the most important documents ever published by the United States Air Force. Doctrine is important because it provides the framework for understanding how to apply military power. . . . The contents of these two volumes are at the heart of the



profession of arms for airmen.” AFM 1-1, *Basic Aerospace Doctrine of the United States Air Force*, vol. 1, March 1992, v.

2. Organization, responsibilities, and tasking for doctrine development and education are specified in three Air Force publications: Air Force Policy Directive 10-13, *Aerospace Doctrine*, 4 February 1994; Air Force Instruction 10-1301, *Aerospace Doctrine*, 5 January 1994; and Air Force Instruction 10-1302, *Air and Space Doctrine Education*, 19 July 1994.

3. Such terms and concepts as limited war, protracted revolutionary war, insurgency, and guerrilla war were not even mentioned in the 1953, 1954, 1955, and 1959 versions of Air Force basic doctrine. Finally, in the 1964 version, a short chapter appeared that addressed the subject of insurgency. In 1971 this short chapter was changed to address special operations rather than insurgent warfare. After 1971, the concept disappeared altogether. AFM 1-2, *United States Air Force Basic Doctrine*, 1953, 1954, April 1955, December 1959; AFM 1-1, *United States Air Force Basic Doctrine*, 14 August 1964, 28 September 1971, 15 January 1975; and AFM 1-1, *Functions and Basic Doctrine of the United States Air Force*, 14 February 1979.

4. The lack of any sort of a systematic intellectual process for the development of doctrine became very apparent to me when, beginning in 1988, I led a 10-person team of doctrine analysts at Air University’s Airpower Research Institute in the project that eventually produced the 1992 version of Air Force basic doctrine. This article has its genesis in our efforts to invent a systematic intellectual process that would produce sound basic doctrine.

5. For a more complete discussion of the sources of military doctrine, see the author’s “Of Trees and Leaves: A New View of Doctrine,” *Air University Review* 33, no. 2 (January–February 1982): 40–48. Also note Gen Merrill A. McPeak’s foreword to the 1992 version of Air Force basic doctrine, in which he notes that doctrine “is what history has taught us works in war, as well as what does not.” In the general introduction to the same manual, the authors state that doctrine “is based on experience, our own and that of others. Doctrine is what we have learned about aerospace power and its application since the dawn of powered flight.” AFM 1-1, vol. 1, March 1992, v and vii.

6. In private conversations with the author, Gen Michael Dugan, former Air Force chief of staff, once expressed his frustration over the Air Force’s inability to educate its forces on doctrine. Dugan noted that if someone questioned an Army officer on his doctrine, he or she could quote chapter and verse from Army doctrine. Asked the same question, an Air Force officer could tell you when the bar opened at the Officers’ Club. Dugan went on to assert that the Air Force was producing what were, in effect, “illiterate truck drivers.”

7. Informal doctrine exists for better or for worse. We all have personal opinions about the best way to do things, whether or not they are codified in official doctrine. The

danger in informal doctrine is that it has not been put through the rigors of critical examination. It is limited by our personal experience and personal knowledge, which may be quite narrow.

8. In truth, this might be a misstatement. Very little in the 1971 version of basic doctrine reflects what was happening in Vietnam. Perhaps we were learning very little.

9. Examples of such changes include reinterpretations of the Vietnam experience, which exploded on the scene in the mid-1980s; a vast pool of new experiences derived from operations in Grenada, Libya, Panama, and Iraq/Kuwait; the collapse of the Soviet Union and Warsaw Pact; the proliferation of precision guided munitions; and the advent of stealth technology.

10. This eight-year gap in the face of enormous changes is not as odd as it might first appear. Serious work on two competing versions of a new manual of basic doctrine began almost simultaneously in 1988 at the Air Staff and at Air University. The Air Staff effort eventually abdicated in favor of the more radical Air University revision. By January 1990, the manual was essentially in final form, but publication was delayed by bureaucratic “turf” struggles and “tweaking” at the margins of the document.

11. The only minor exception occurred during the production of the 1992 manual of basic doctrine at Air University. In that effort, a 10-person team worked to gather and evaluate concepts from all previous doctrinal efforts and from a broad spectrum of professional and academic literature. Further, they hosted a conference attended by representatives from every major command and the Air Staff to examine and revise an early draft of the manual line-by-line and concept-by-concept. This was a one-time effort and clearly not of the scope proposed in this article.

12. It is instructive to note that the development of the 1992 version of AFM 1-1, which arguably came the closest to emulating the process of doctrine development, required a team of 10 field-grade officers working nearly full time for almost two years. An estimated 7,000 man-hours were spent on research alone. This effort was possible only because the task was performed at Air University’s Airpower Research Institute within CADRE. Most of the extensive resources of the institute were devoted to doctrine development during that period. In contrast, the new Air Force Doctrine Center has only 21 total billets (including leadership, administrative, and editorial positions) and is responsible for the pressing demands concerning all levels of Air Force doctrine and airpower issues in joint doctrine. It would be nearly impossible for the Doctrine Center to mount an effort of the magnitude required to produce the 1992 version of AFM 1-1, let alone an effort of the much greater magnitude proposed here.

13. This concept of “outside referral” for doctrine development is a practice already sanctioned in paragraph 2.1.4 of Air Force Instruction 10-1301. However, reading the entire instruction, one quickly realizes that it visualizes such referrals as episodic—a practice that clashes with the con-

tinuous nature of the process of doctrine development.

14. At the level of basic doctrine, "testing" concepts generally occurs more in terms of argumentation than in terms of physical field testing. The same may not be true at other levels of doctrine.

15. This concise yet apt description of doctrine was, to

the author's knowledge, first used by Dr Larry E. Cable in his groundbreaking book *Conflict of Myths: The Development of American Counterinsurgency Doctrine and the Vietnam War* (New York: New York University Press, 1986), 113.

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